

Remarks

Claims 1-39 are pending.

Claim Rejections Under Section 101

Claims 17-34 were rejected under Section 101 as being directed to non-statutory subject matter. The Examiner asserts that "[s]ince there is no computer program embodied on a computer readable medium to realize the computer functionality, the claimed subject matter is non-statutory." Office Action, page 2. The Examiner suggests the following language: "a computer readable medium having encoded thereon instructions for." Office Action page 2.

First, the Examiner's assertion that "there is no computer program embodied on a computer readable medium to realize the computer functionality" is not correct. The preamble to each of the independent claims in the group of rejected claims recites "A computer readable medium having instructions thereon for:" followed by the functionality in the body of the claim. The computer readable medium in the claims is, well, a computer readable medium. The instructions on the computer readable medium are a computer program embodied on the computer readable medium. And, the instructions are for carrying out the functionality recited in the body of the claim. Thus, the rejection is based on a false factual finding -- each of the elements noted by the Examiner appears in the preamble.

Second, there is only one word of difference between the rejected preamble and the suggested preamble -- "encoded." The Examiner apparently is asserting that the instructions must be encoded on the computer readable medium to satisfy the requirements of Section 101, as opposed to simply being on the computer readable medium. This assertion, of course, is not correct. So far as Applicant has been able to determine, there is nothing in the MPEP or the case law interpreting Section 101 that requires a specific method for getting the instructions on to the computer readable medium. All that is required is that the instructions be on a computer readable medium. Admittedly, however, the Applicant's research has not been exhaustive. If the Examiner disagrees, she is respectfully requested to specifically point out and explain the law that

supports her position. Absent such a showing, the rejection under Section 101 should be withdrawn.

This is not a trivial matter for the Applicant and the prospective patentee. Under current Federal Circuit court decisions, any amendment to a claim for the purpose of establishing patentability carries with it the risk that the patentee will not be able to assert the doctrine of equivalents for the amended claim(s), leaving the patentee with a claim for literal infringement only. While amending to recite instructions "encoded on" or "embodied on" or "stored on" might seem all encompassing, and therefore not narrowing or otherwise objectionable, it is the fact of the amendment itself that raises the question of estoppel. There is just no reason Applicant should have to amend any of the computer readable medium claims without a clear showing that the preamble really is defective under Section 101.

Claim Rejections Based On Whiting -- Perceptually Uniform Adjustment

Claims 1-4, 17-20 and 39 were rejected under Section 102(e) as being anticipated by Whiting 6618170. Claims 5-14, 21-30 and 33-38 were rejected under Section 103 as being obvious over Whiting in view of Gruzdev 20030002095. (Gruzdev is cited as teaching a memory color palette.)

The Applicant distinguished Whiting in the response to the prior office action based on Whiting's failure to teach a perceptually uniform adjustment. Nevertheless, the Examiner persists in the rejections based on Whiting because, she asserts, "the features upon which applicant relies (i.e., perceptually uniform adjustments) are not recited in the rejected claim(s)." Office Action, page 2. This assertion, which is plainly not correct, is mystifying in view of the fact that independent Claims 1, 5, 9, 12, 17, 21, 25, 28, 33, 35, 38, and 39 each recite a "perceptually uniform adjustment." (Independent Claims 13 and 29 recite a perceptually uniform color modeling space.)

"Perceptually uniform" is specially defined in the Specification at paragraph 0022. The Examiner, of course, is bound to apply the Applicant's definition of a term in the claims when that term is specially defined in the Specification. MPEP 2111.01.IV. "Perceptually uniform" means that the perceived change in a color is directly proportional to the increment of change selected. The Specification reads in pertinent part:

As used in this document, "perceptually uniform" means that the perceived change in a color is directly proportional to the increment of change selected to adjust the color. Hence, the change from the original color image printed or displayed in step 74 to the adjusted color image printed or displayed in step 80 will be perceived in the same proportion as the adjustment selected in step 78. For example, if the user selects an adjustment to make the green apples in the fruit image of Fig. 7 more green by an increment of four, then the apples in the adjusted color image will appear more green by a factor of two over an increment of two and more green by a factor of four over an increment of one.

Whiting does not teach that the perceived change in a color is directly proportional to the increment of change. The term "perceptually uniform" does not appear in Whiting. Whiting also does not mention proportionality between an increment of color change selected by a user and the perceived change in color. Rather, Whiting teaches presenting the effects of a user-selected color change in all of the colors in an image. The pertinent passages from Whiting are quoted below.

In accordance with a further aspect of the present invention, the dynamic image representation includes a skin tone portion displayed in an environment substantially including the rest of the color spectrum. The consequence of hue shift commands can thus be perceived by the user not only with reference to the skin tone of the image representation but in the effects on other portions of the image representation. Whiting column 3, lines 10-17.

* * *

More importantly, though, a dynamic image representation 76 is also included within the display 22 comprising an actual picture preferably illustrating a skin-tone color as well as a spectrum of other colors. The effect of the picture representation 76 is that the adjustment communicated by the operator can now more accurately represent the effect of hue shifts in the overall picture and can be communicated and perceived in combination with relative movements between color bars 32 and 52. A huge shift is effected by an operator touching the touch pads 82, 84, so that the slide bar 52 can move to one of the five positions relative to spectrum arc 32 as noted above. With reference to FIGS. 3C and 3D, if the operator moves the slide bar 52 from the default or neutral position as shown in FIG. 3C, to the "+1" position shown in FIG. 3D, *the effect of the hue shift is that the reds will become more yellow, the yellows will become more green, the greens will become more blue, the blues will become more purple, the purples will become more magenta and magentas will become more red.* Whiting column 4, line 58 through column 5, line 9 (emphasis added).

Conspicuously absent from the highlighted text at the end of this quote is any mention of a specific relationship in which the incremental change selected by the operator (+1) is rendered proportionally in the display. On the contrary, the highlighted text teaches only a general relationship between the incremental change selected by the operator (+1) and the display -- the reds become more yellow, the yellows become more green, the greens become more blue, the blues become more purple, the purples become more magenta, and the magentas become more red. While it might be possible to implement the color calibration scheme taught by Whiting using perceptually uniform adjustments, other techniques might also be used to implement Whiting's scheme.

The plain fact is that Whiting does not teach or even suggest the use of perceptually uniform adjustments to implement his scheme. Whiting simply does not support the Section 102 and 103 rejections of Claims 1-14, 17-30, and 33-39 and, consequently, the Examiner has failed to establish a prima facie case of anticipation under Section 102 or obviousness under Section 103.

Claim Rejections Based On Whiting And Falk -- RGB/CIE Lab/CMYK Color Spaces

Claims 15-16 and 31-32 were rejected under Section 103 as being obvious over the combination of Whiting and Gruzdev in view of Falk 20040119992.

In support of the rejection, the Examiner asserts that Whiting discloses "storing a color image in an RGB color modeling space (copied document);...." Office Action page 14. This assertion is not correct. So far as Applicant can tell, Whiting does not even mention any color modeling space and specifically not an RGB color modeling space. (The only colors mentioned in Whiting are hue shifts. See Whiting column 2, lines 33-38 and column 5, lines 5-9.) If the Examiner is arguing an RGB color modeling space is somehow inherent in a copied document in Whiting, then she is respectfully requested to establish inherency in accordance with the applicable law.¹

¹ To establish inherency, the Examiner must show that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. MPEP § 2112, paragraph IV.

Also in support of the rejection of Claims 15-16 and 31-32, the Examiner asserts that Falk discloses transforming an RGB model color value to a CIELab model color value, adjusting the CIELab model color value, and then transforming the adjusted CIELab model color value to a CMYK model color value. Office Action page 14. This assertion is not correct. Falk teaches transforming CMYK data to CIELab data for adjustment and then back to CMYK data. See Falk paragraph 0029 and box 12 in Figs. 3 and 4.

Neither Whiting nor Falk teach transforming an RGB model color value as claimed. The Examiner, therefore, has failed to establish a prima facie case of obviousness as to Claims 15-16 and 31-32.

Smoothing A Discontinuity -- Claims 16 and 32

Method Claim 16 depending from Claim 15 adds the further limitation that:
after transforming the CIELab model color value to a CMYK model color value, smoothing a discontinuity in an LUT of CMYK color values associated with the transformation of the adjusted CIELab model color value to the CMYK model color value

Computer medium Claim 32 depending from Claim 31 recites a similar limitation.

In support of the rejection, the Examiner asserts without explanation that Falk discloses this limitation at Fig. 3 and paragraph 29. Office Action page 16. Falk Fig. 3 and paragraph 29 are reproduced below. So far as Applicant can tell, there is nothing in either paragraph 0029 or Fig. 3 that even remotely suggests smoothing a discontinuity in an LUT generally, and specifically not a discontinuity in an LUT of CMYK color values associated with the transformation of the adjusted CIELab model color value to the CMYK model color value. If the Examiner disagrees, she is respectfully requested to specifically point out and explain the teaching in Falk because Applicant just doesn't see it. Absent such a showing, and for this additional reason, the Examiner has failed to establish a prima facie case of obviousness as to Claims 15-16 and 31-32.

[0029] Referring now to FIG. 3, an illustrative method in accordance with this invention is described. At step 12, input color data $CMYK_i$ is received. Input color data $CMYK_i$ may be provided, for example, by a user via a graphics arts software application, the output of an output profile, or any other source of color data. At step 14, input color data $CMYK_i$ are converted to a device-independent color space, such as CIELAB, CIEXYZ, calibrated RGB, or any other similar device-independent color space. This conversion may be performed using any conventional technique for converting device-dependent color data to device-independent color data. For example, step 14 may be implemented using a forward lookup table of a printer output profile. As shown in FIG. 3, input color data $CMYK_i$ are converted to CIELAB values $L^*a^*b^*_i$.

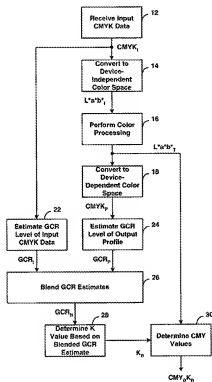


FIG. 3

All pending claims remain in condition for allowance.

The foregoing is believed to be a complete response to the pending Office Action.

Respectfully submitted,

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